

REMARKS

Reconsideration of the present application in view of the above amendments and following remarks is respectfully requested.

Response to Election/Restriction Requirement

Applicants acknowledge the Examiner's withdrawal of method claims 42-43 due to constructive election of claims 21-41 by original presentation for prosecution on the merits, and receiving an office action on same. Applicants believe that no further action is required on their part. If this is not the case, the Examiner is kindly requested to contact the undersigned.

Status of the Claims

Claims 21-25, 27-38 and 42-43 are presented. Claims 21, 28 and 34 are amended. Claims 21, 34 and 42 (withdrawn) are amended to emphasize that component (a) **enhances the foamability of the emulsion and the emulsion forms a foam when dispensed**. Support is found in the specification as originally filed, *inter alia*, on page 2, lines 4-7 and 27-30; page 6, line 29 through page 7, line 2; plus original claim 20, now cancelled. Claims 21, 34 and 42 are also amended to include the limitations of claims 24 and 37, cancelled in the present action, into the surfactant component (c) (claims 21 and 34) or (iii) (withdrawn claim 42). Claim 28 is amended for clarity. Support is found throughout the specification as filed. Claims 24 and 37 are cancelled without prejudice. The previously added claims 42-43 were withdrawn by the Examiner as being drawn to a non-elected invention. No new claims are added in the present action.

No new matter has been introduced.

Summary of the Invention as Claimed

As presently amended, the pending claims are drawn to a foam-producing and dispensing system for dispensing a sun protection water-in-oil emulsion, **wherein component (a) enhances the foamability of the emulsion, and the**

emulsion forms a foam when dispensed, and wherein surfactant component (c) is **selected from the group consisting of anionic surfactants, zwitterionic surfactants, and mixtures thereof** (claim 21); and to a foamable sun protection water-in-oil emulsion, **wherein component (a) enhances the foamability of the emulsion, and the emulsion forms a foam when dispensed**, and wherein surfactant component (c) is **selected from the group consisting of anionic surfactants, zwitterionic surfactants, and mixtures thereof** (claim 34). Important to the invention as now claimed is the inclusion in the emulsion of at least one polyol poly-12-hydroxystearate as a foam former (component (a)). In certain embodiments, the polyol poly-12-hydroxystearate preferably comprises polyglycerol poly-12-hydroxy-stearate (claims 23 and 36).

Rejections under 35 U.S.C. § 103(a)

Previously presented claims 34-38 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Polovsky et al. (US 5,384,334; "Polovsky") in view of Ansmann et al. (US 6,280,712; "Ansmann"). Applicants respectfully traverse the rejection.

First, Polovsky discloses personal care compositions comprising **cationic** alkoxyated alkyl glucosides (quaternary salts) that may be formulated as emulsions. Other additives may include sulfosuccinates, cocamidopropyl betaine and sunscreen components. It is respectfully emphasized that Polovsky's disclosure is directed to **alkoxyated** alkyl glucosides having **quaternary** nitrogen-containing ether substituents, which are **cationic** surfactants, as distinguished from (alkoxyated) alkyl glucosides, which are **nonionic** surfactants. In contrast, as presently amended, applicants' independent claims incorporate the limitations of dependent claims 24 and 37 (now cancelled) with regard to the surfactant component (c) being selected from the group consisting of **anionic** surfactants, **zwitterionic** surfactants and mixtures thereof. They are therefore distinguished from the cationic surfactants required by Polovsky.

Further, Polovsky's disclosed cationic surfactant salts are derived from **monomeric** alkyl glucosides, not **polyglucosides** or **oligoglucosides**. Polovsky makes no reference to **poly-** or **oligo-**glucosides. Thus Polovsky's quaternary surfactant salts possess very different physicochemical properties from those of the unalkoxylated nonionic oligomeric alkyl polyglucosides (APGs). Therefore, on the basis of the distinct chemistry and surfactant properties of the surfactant components, Polovsky's disclosure is unrelated to that of applicants, as presently amended.

As correctly noted by the Examiner, Polovsky also fails to disclose polyol poly-12-hydroxystearates or dialkyl carbonates. Also the percentage requirements of the pending claims are not disclosed. To overcome these deficiencies, the Examiner joined Ansmann.

Ansmann discloses a process for enhancing the effectiveness of sunscreen UV filters by solubilizing/dispersing the UV filters in dialkyl carbonates (1-30% by weight). The compositions may contain surfactants such as dialkylsulfonsuccinates and cocamidopropyl betaine. In addition, polyol esters of poly-12-hydroxystearate, and alkyl **oligoglucosides** may be present as emulsifiers. The Examiner stated that Ansmann teaches the equivalence of polyglycerol poly-12-hydroxystearates and alkyl glucosides. With respect, this is not the case. Ansmann does state that the preferred **consistency factors** of his compositions are **fatty alcohols, optionally combined with alkyl oligoglucosides** and/or polyglycerol poly-12-hydroxystearates (column 6, lines 13-18), but this does not equate the latter two classes of compound, particularly in regard to applicants' discovery of the latter's unique **foam-forming activity**. Although Ansmann does state that fatty acid alkanolamides serve as foam **stabilizers** (col. 6, lines 7-11), he is silent regarding foam-formers, specifically with respect to polyol poly-12-hydroxystearates. Even if Ansmann did, *arguendo*, equate polyglycerol poly-12-hydroxystearates and alkyl glucosides (which the undersigned maintains that he does not), alkyl **oligoglucosides** are still at least three steps removed from the quaternary alkoxylated alkyl glucosides of primary reference Polovsky, the three steps involving functionalization with a

quaternary ammonium ether group, alkoxylation, and oligomerization of the glucoside.

Furthermore, the Examiner stated that "the Ansmann reference teaches that nonionic surfactants include polyglycerol poly-12-hydroxystearate and alkyl glucosides" (Office Action, page 8, bottom). Under the category of nonionic surfactants, Ansmann does reference "alkyl glucosides", but only with respect to their being **partial esters** of C6-22 fatty acids **and** alkyl glucosides (in group (8), column 4, line 66, through column 5, line 5). Polyglycerol poly-12-hydroxystearate is listed under group (6) of the same list. Therefore, the Examiner's statement equating the "alkyl glucosides" and polyglycerol poly-12-hydroxystearate is shown to be inaccurate, based on a misreading of the structure of the disclosed **partial fatty acid esters of alkyl glucosides**. Further, these citations are not in regard to their use as **foam-formers**, as presently claimed. Applicants respectfully submit, therefore, that the substantial deficiencies of Polovsky cannot be cured by joining Ansmann.

Still further, Ansmann fails to recognize the unique advantage of polyol poly-12-hydroxystearates with regard to generating a **foam**, as discovered by applicants (specification as originally filed, page 2, lines 4-7 and 27-30; page 6, line 29 through page 7, line 2; plus original claim 20, now cancelled). Ansmann discloses suitable **emulsifiers** from 13 distinct classes of nonionic surfactants (col. 4, line 40 – col. 5, line 17), representing thousands of choices for his sunscreen compositions. One class comprises **polyol esters**, represented, for example, by polyglycerol polyricinoleate, polyglycerol dimerate and polyglycerol poly-12-hydroxystearate (col. 4, lines 59-63). Applicants have now discovered that the former produces **non-foamable** sun protection emulsions (Comparison Example, page 31, lines 28 and following), whereas the latter **uniquely produces foamable emulsions** (Examples 1-4, pages 29-13; page 2, lines 4-7). Accordingly, applicants' claims, as presently amended, define a **selection invention** over Ansmann, on the basis of the surprising and unexpected foaming behavior of a polyol poly-12-hydroxystearate from among the litany of polyol esters recited by Ansmann. There is no teaching or suggestion in Ansmann that

such a selection of a single genus of nonionic surfactants (polyol esters), let alone a single species within that genus (polyol poly-12-hydroxystearates) would be effective to provide uniquely **foamable** emulsions. A skilled artisan at the time of the invention would not have been able to identify the special foaming properties of polyol poly-12-hydroxystearates from the broad disclosure of Ansmann. Therefore, applicants' claims as presently amended define non-obvious subject matter over the cited art.

Further, in support of the unique foam-forming properties of polyol poly-12-hydroxystearates, specifically, polyglycerol poly-12-hydroxystearate, submitted herewith is the Rule 1.132 Declaration of Rolf Kawa.

Previously presented claims 21-25 and 27-33 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Polovsky in view of Ansmann, further in view of Van der Heijden et al. (WO 00/78629; "Van der Heijden"). Applicants respectfully traverse the rejection.

As discussed above, the addition of Ansmann to Polovsky fails to cure the substantial deficiencies of the latter. Further, addition of Van der Heijden also fails to cure these same substantial deficiencies. Therefore, applicants' claims as presently amended define non-obvious subject matter over the cited art.

Applicants respectfully submit that the data presented in the specification as originally filed is sufficient to demonstrate the unexpected results achieved in accordance with the present invention, and therefore the patentability of the subject matter now being claimed.

Rule 1.132 Declaration of Rolf Kawa

Submitted herewith is the Rule 1.132 Declaration of Rolf Kawa, a co-inventor of the present invention, and technical expert in foamable emulsion composition technology. Mr. Kawa testifies to the non-equivalence of

polyglycerol poly-12-hydroxystearates and alkyl glucosides, particularly with regard to the surprising foaming properties of the former when incorporated into sun protection emulsions, enabling these emulsions to be readily and stably foamed. This contrasts with the polyglycerol polyricinoleate cited by Ansmann, which provides a non-foamable emulsion composition.

For at least these reasons, applicants' claims as presently amended define novel and non-obvious subject matter over the cited references, either alone or in combination.

Conclusion

In view of the above claim amendments and remarks, applicants believe that the pending claims are in condition for allowance. The Examiner is respectfully requested to reconsider, withdraw the rejections and allow the claims.

If any additional fees are required in support of this application, authorization is granted to charge our Deposit Account No. 50-1943.

Respectfully submitted,

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Date

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